



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,408	01/08/2002	Naoki Fukutomi	7426-082	9036
20583	7590	11/24/2003	EXAMINER	
PENNIE AND EDMONDS 1155 AVENUE OF THE AMERICAS NEW YORK, NY 100362711			BEREZNY, NEMA O	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/042,408

Applicant(s)

FUKUTOMI ET AL.

Examiner

Nema O Berezny

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-31 is/are pending in the application.
- 4a) Of the above claim(s) 14-21 and 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-26 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4,6. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of claims 22-26 and 31 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that examining both groups I and II does not require separate or burdensome searches. This is not found persuasive because as noted in the restriction, separate class/subclasses are searched for each separate invention. Even if there is some searching overlap within a class/subclass, different elements are searched within that class/subclass, depending upon the elected invention.

The requirement is still deemed proper and is therefore made FINAL.

### ***Drawings***

The drawings were received on 8-22-03, 7-25-03, and 8-28-02. These drawings are acceptable to Examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2813

Claims 22-23, 25-26, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Tatsuo (JP2153542). Tatsuo discloses a substrate for mounting semiconductor device thereon having an insulating supporting member (Fig.6 el.31) and plural sets of wirings (el.33), comprising plural sets of a semiconductor device mounting region (Fig.1) and a resin-sealing semiconductor package region (el.38) outside of said semiconductor device mounting region, wherein said wirings comprises a predetermined wiring pattern including wire bonding terminals (no #) and external connecting terminals (el.33) and wirings (el.36) that connect said wire bonding terminals and said external connecting terminals, and said semiconductor device mounting region and said semiconductor packaging region are arranged repeatedly in plural numbers in a row and a column respectively with the same wiring pattern (Figs.1-4 implied). Tatsuo also discloses wherein there are provided plural number of blocks of said wirings formed in a manner that said semiconductor device mounting region and said semiconductor packaging region are arranged repeatedly in plural numbers in a row and a column respectively with the same wiring pattern (Figs.1-6); wherein said external connecting terminals are exposed on a surface of said insulating supporting member, on opposite side of which said semiconductor device is mounted, and are arranged in a grid pattern at positions corresponding to said semiconductor device mounting region and said semiconductor packaging region (Fig.6); wherein said wiring is formed on one side of said insulating supporting member, and openings (el.34) are provided at portions of said external connecting terminals of said insulating support member (Fig.6); and the semiconductor package produced by a method comprising the steps of: mounting a semiconductor

Art Unit: 2813

device on each of said plural semiconductor device mounting regions of the substrate for mounting semiconductor device thereon according to claim 22 by employing a die bonding material; electrically connecting said semiconductor device with said wire-bonding terminal by wire-bonding; sealing said semiconductor package region including said plural semiconductor devices with a sealing resin connected in one-piece; forming solder bumps on said external connection terminals; and cutting said substrate for mounting semiconductor devices thereon and said sealing resin in one operation to be separated into the individual semiconductor package (Figs.1-6).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsuo as applied to claims 22-23 above, and further in view of Katsuhiko (JP59208756).

Tatsuo does not disclose a wire bonding terminal comprising a nickel and gold plate layer. However, Katsuhiko discloses wherein said wire-bonding terminal is formed in said semiconductor packaging region, and said wire-bonding terminals comprise a nickel and gold plate layer on its surface (Constitution). Therefore, it would have been obvious to a person skilled in the art at the time of the invention to use the nickel and

Art Unit: 2813

gold plating of wiring structures of Katsuhiko with the substrate of Tatsuo, in order to protect the device and facilitate wire bonding.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (703) 305-3445. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (703) 308-4940. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

NB

  
CARL WHITEHEAD, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800